

REMARKS

Claims 1-26 are currently pending in the subject application and are presently under consideration.

Applicants' representative thanks Examiner Zhen for considering the remarks conveyed over the telephone on September 16, 2008, in connection with how the claimed invention is patentably distinct over Slaughter *et al.* (U.S. Patent No. 6,643,650) in view of Morciniec *et al.* (U.S. Patent Publication No. 2003/0074215).

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

I. Rejection of Claims 1-6, 16, 21, and 26 Under 35 U.S.C. § 103(a)

Claims 1-6, 16, 21, and 26 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Slaughter *et al.* (U.S. Patent No. 6,643,650) in view of Morciniec *et al.* (U.S. Patent Publication No. 2003/0074215). This rejection should be withdrawn for at least the following reason: Slaughter *et al.* and Morciniec *et al.*, alone or in combination, do not teach or suggest each and every feature recited in the subject claims. The claimed subject matter is directed to representing devices as services in a decentralized operating system. For example, devices can be transformed into Web services or special-purpose servers that are capable of communicating with other devices such as personal computers. Services representing devices communicate with each other by sending messages to each other. Unilateral contracts specify an order of messages that flow between services. (See applicant's specification at paragraphs 1 and 21-22). To this end, independent claim 1 recites *one or more services executing in a device, ...* and a *unilateral contract for describing one or more behaviors of the service*, wherein *the one or more behaviors are described by behavior sentences*, wherein *the unilateral contract specifies an order of messages that flow in or out of services*, wherein *the unilateral contract is accepted when an external service promises to perform the unilateral contract according to the order of messages specified in the unilateral contract or ... performs the unilateral contract according to the order of messages specified in the unilateral contract*, and wherein *acceptance of the unilateral contract creates an instance of communication between services*.

Slaughter *et al.* is directed to a distributed computing environment for connecting network clients and services based on a message passing model. To this end, Slaughter *et al.*

discloses searching for documents within spaces (*i.e.*, object repositories) of a distributed computing environment. Each space has an advertisement that a client of the space must first obtain in order to run a service associated with the space. A space's advertisement can include an XML schema, credentials, and a Uniform Resource Identifier (URI) that indicate how a client of the space can access the space. In order to run a space's service, a client of the space can run an authentication service for the space to obtain an authentication token. (See Slaughter *et al.* at col. 1, lines 28-20; col. 7, lines 63-65; col. 8, lines 11-16; and col. 9, lines 5-67). However, Examiner concedes that Slaughter *et al.* fails to teach or suggest a ***unilateral contract for describing one or more behaviors of the service***, wherein ***the one or more behaviors are described by behavior sentences***, wherein ***the unilateral contract specifies an order of messages that flow in or out of services***, wherein ***the unilateral contract is accepted when an external service promises to perform the unilateral contract according to the order of messages specified in the unilateral contract*** or ... ***performs the unilateral contract according to the order of messages specified in the unilateral contract***, and wherein ***acceptance of the unilateral contract creates an instance of communication between services***.

Morciniec *et al.* is directed to an apparatus and method for binding business protocols to contract actions. To this end, Morciniec *et al.* discloses agreeing on a binding protocol for an e-contract; downloading the binding protocol and associated business protocol descriptor to a business protocol repository from a business protocol provider; and analyzing the structure of the e-contract using pre-assigned contract descriptors. The e-contract contains the text of a contract structured into ClauseGroups and Clauses stored in a TextualContract record. A reference stored in a field of the TextualContract record associates the TextualContract record with a FormalContract record. The FormalContract record has a field that lists contract roles (such as Buyer, Seller), and indicates in a field contract parties that will be fulfilling the contract roles. Once contract parties have agreed on a specific e-contract, they carry out the e-contract using a binding protocol. When both parties send acceptance messages, the binding protocol ends. (See Morciniec *et al.* at paragraphs 2, 9-10, 42-43, 58, and 88).

Although Morciniec *et al.* discloses that contract parties can use messaging systems to communicate with each other based on business protocol descriptions associated with an e-contract (see Morciniec *et al.* at paragraphs 30, 37, and 58), applicant's representative respectfully submits that, contrary to assertions made in the Office Action, Morciniec *et al.* fails

to teach or suggest a *unilateral contract* that *specifies an order of messages that flow in or out of services* and that describes *one or more behaviors* expressed by *one or more behavior sentences*, wherein *the unilateral contract is accepted when an external service promises to perform the unilateral contract according to the order of messages specified in the unilateral contract* or ... *performs the unilateral contract according to the order of messages specified in the unilateral contract*, and wherein *acceptance of the unilateral contract creates an instance of communication between services*. Instead, Morciniec *et al.* discloses that two parties form a bilateral contract when they both send acceptance messages. (See Morciniec *et al.* at paragraph 88). Further, unlike a unilateral contract of the subject invention performed in order of messages describing the unilateral contract, the bilateral e-contract of Morciniec *et al.* is performed based on ClauseGroups and Clauses stored in a TextualContract record, and based on a FormalContract record associated with the bilateral e-contract. (See Morciniec *et al.* at paragraphs 42-43).

Dependent claim 3 recites *the one or more services comprise a data service, the data service being capable of storing input/output events generated by the device and further being capable of responding to queries regarding the input/output events*. Although Slaughter *et al.* discloses event gates that can recognize events published by a service, subscribe to those events, and distribute each event as the event is produced by the service (see Slaughter *et al.* at col. 31, line 61 to col. 32, line 2), applicant's representative respectfully submits that, contrary to assertions made in the Office Action, the cited section fails to teach or suggest *the one or more services comprise a data service, the data service being capable of storing input/output events generated by the device and further being capable of responding to queries regarding the input/output events*.

Independent claim 6 recites *a unilateral contract for describing one or more behaviors of a display service*, wherein *the one or more behaviors associated with a service are described by behavior sentences*, wherein *the unilateral contract is accepted when an other service promises to perform the unilateral contract in accordance with the one or more behaviors* or when *the other service performs the unilateral contract in accordance with the one or more behaviors*, and wherein *acceptance of the unilateral contract creates an instance of communication between the display service and another service*. Examiner concedes that Slaughter *et al.* fails to teach or suggest the novel features recited in claim 6. Further, although Morciniec *et al.* discloses that contract parties can use messaging systems to communicate with

each other based on business protocol descriptions associated with an e-contract (*see* Morciniec *et al.* at paragraphs 30, 37, and 58), applicant's representative respectfully submits that, contrary to assertions made in the Office Action, Morciniec *et al.* fails to teach or suggest ***a unilateral contract for describing one or more behaviors of a display service, wherein the one or more behaviors associated with a service are described by behavior sentences, wherein the unilateral contract is accepted when an other service promises to perform the unilateral contract in accordance with the one or more behaviors or when the other service performs the unilateral contract in accordance with the one or more behaviors, and wherein acceptance of the unilateral contract creates an instance of communication between the display service and another service.*** Instead, Morciniec *et al.* discloses that two parties form a bilateral contract when they both send acceptance messages. (*See* Morciniec *et al.* at paragraph 88). Further, unlike a unilateral contract of the subject invention that describes one or more behaviors associated with a display service and that is performed in accordance with the one or more behaviors, the bilateral e-contract of Morciniec *et al.* is performed based on ClauseGroups and Clauses stored in a TextualContract record, and based on a FormalContract record associated with the bilateral e-contract. (*See* Morciniec *et al.* at paragraphs 42-43).

Independent claim 16 recites a ***method for processing input/output events by devices as services...comprising: requesting a service representing a device for an input/output event, the service including...a unilateral contract for describing one or more behaviors of the service, the unilateral contract expressed in a language specifying an order of messages that flow in or out of services; receiving a customizable, tag-based message that contains the input/output event; and requesting the service to remove the input/output event.*** Applicant's representative respectfully submits that Examiner has failed to indicate where Slaughter *et al.* teaches or suggests a ***method for processing input/output events by devices as services.*** Further, although Slaughter *et al.* discloses an event gate may subscribe itself as a consumer of that event (*see* Slaughter *et al.* at col. 32, lines 5-6), applicant's representative respectfully submits that, contrary to assertions made in the Office Action, the cited section fails to teach or suggest ***requesting a service representing a device for an input/output event.*** Moreover, applicant's representative respectfully submits that, contrary to assertions made in the Office Action, the cited sections of Slaughter *et al.* and Morciniec *et al.*, alone or in combination, do not teach or suggest ***a unilateral contract for describing one or more behaviors of the service, the unilateral contract***

expressed in a language specifying an order of messages that flow in or out of services; receiving a customizable, tag-based message that contains the input/output event; and requesting the service to remove the input/output event.

Independent claim 21 recites *requesting a service representing a device for an input/output event, the service including...a unilateral contract for describing one or more behaviors of the service*, wherein *the one or more behaviors are described by behavior sentences*, wherein *the unilateral contract specifies an order of messages that flow in or out of services*, wherein *the unilateral contract is accepted when an external service promises to perform the unilateral contract according to the order of messages specified in the unilateral contract* or when *the external service performs the unilateral contract according to the order of messages specified in the unilateral contract*, and wherein *acceptance of the unilateral contract creates an instance of communication between services; receiving a customizable, tag-based message that contains the input/output event; and requesting the service to remove the input/output event*. Applicant's representative respectfully submits that, contrary to assertions made in the Office Action, the cited sections of Slaughter *et al.* and Morciniec *et al.*, alone or in combination, do not teach or suggest the novel features recited in claim 21. Instead, the cited sections disclose an event gate that may subscribe itself as a consumer of that event (see Slaughter *et al.* at col. 32, lines 5-6) and contract parties can use messaging systems to communicate with each other based on business protocol descriptions associated with an e-contract (see Morciniec *et al.* at paragraphs 30 and 37).

Independent claim 26 recites *a unilateral contract for describing one or more behaviors of a service*, wherein a *port associated with the service comprises behavioral types*, and wherein *the device communicates with another device of the networked system based on compatibility of behavioral types*. Applicant's representative respectfully submits that, contrary to assertions made in the Office Action, the cited sections of Morciniec *et al.* do not teach or suggest *a unilateral contract for describing one or more behaviors of a service*, wherein a *port associated with the service comprises behavioral types*, and wherein *the device communicates with another device of the networked system based on compatibility of behavioral types*. Rather, the cited sections of Morciniec *et al.* disclose fields included in a contract record, an Embodiment field is included in a CommitmentSubject record upon contract agreement, and two parties exchange messages according to a protocol after contract agreement. (See Morciniec *et al.* at

paragraphs 45, 56, and 58). Further, although Slaughter *et al.* discloses an XML schema can be viewed as defining a contract with a service (see Slaughter *et al.* at col. 23, lines 25-55), Slaughter *et al.* fails to teach or suggest ***a unilateral contract for describing one or more behaviors of a service***, wherein a ***port associated with the service comprises behavioral types***, and wherein ***the device communicates with another device of the networked system based on compatibility of behavioral types***.

In view of at least the foregoing, it is readily apparent that Slaughter *et al.* and Morciniec *et al.*, alone or in combination, do not teach or suggest each and every features of the claimed subject matter as recited in independent claims 1, 6, 16, 21, and 26 (and associated dependent claims). Accordingly, withdrawal of this rejection is respectfully requested.

II. Rejection of Claims 7-15, 17-20, and 22-25 Under 35 U.S.C. § 103(a)

Claims 7-15, 17-20, and 22-25 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Slaughter *et al.* and Morciniec *et al.* in view of Hutsch *et al.* (U.S. Patent No. 7,269,664). This rejection should be withdrawn for at least the following reason: Slaughter *et al.*, Morciniec *et al.*, and Hutsch *et al.*, alone or in combination, do not teach or suggest each and every feature recited in the subject claims. Dependent claim 7 recites a ***display service*** that ***includes a cursor shape service for describing the shape on an on-screen cursor ... and a unilateral contract for describing one or more behaviors of the cursor shape service***. Applicant's representative respectfully submits that, contrary to assertions made in the Office Action, the cited section of Slaughter *et al.* does not teach or suggest ***a unilateral contract for describing one or more behaviors of the cursor shape service***. Instead, Slaughter *et al.* discloses an XML schema can be viewed as defining a contract with a service. (See Slaughter *et al.* at col. 23, lines 25-55). Further, applicant's representative respectfully submits that, contrary to assertions made in the Office Action, the cited section of Hutsch *et al.* does not teach or suggest a ***display service*** that ***includes a cursor shape service for describing the shape on an on-screen cursor***. Rather, the cited section of Hutsch *et al.* discloses interpretation of scroll action by a windowing environment and a scroll command set by the windowing environment.

Dependent claim 8 recites ***a unilateral contract for describing one or more behaviors of the cursor position service***. Applicant's representative respectfully submits that, contrary to assertions made in the Office Action, the cited section of Slaughter *et al.* does not teach or

suggest ***a unilateral contract for describing one or more behaviors of the cursor position service.*** Instead, Slaughter *et al.* discloses an XML schema can be viewed as defining a contract with a service. (See Slaughter *et al.* at col. 23, lines 25-55).

Dependent claims 9, 17, and 22 recite ***a unilateral contract for describing one or more behaviors of the window service.*** Applicant's representative respectfully submits that, contrary to assertions made in the Office Action, the cited sections of Slaughter *et al.* do not teach or suggest ***a unilateral contract for describing one or more behaviors of the window service.*** Rather, Slaughter *et al.* discloses an XML schema can be viewed as defining a contract with a service. (See Slaughter *et al.* at col. 23, lines 25-55).

Dependent claim 10 recites ***a unilateral contract for describing one or more behaviors of the window list service.*** Applicant's representative respectfully submits that, contrary to assertions made in the Office Action, the cited section of Slaughter *et al.* does not teach or suggest ***a unilateral contract for describing one or more behaviors of the window list service.*** Instead, Slaughter *et al.* discloses an XML schema can be viewed as defining a contract with a service. (See Slaughter *et al.* at col. 23, lines 25-55).

Dependent claim 11 recites ***a unilateral contract for describing one or more behaviors of the window update service.*** Applicant's representative respectfully submits that, contrary to assertions made in the Office Action, the cited section of Slaughter *et al.* does not teach or suggest ***a unilateral contract for describing one or more behaviors of the window update service.*** Rather, Slaughter *et al.* discloses an XML schema can be viewed as defining a contract with a service. (See Slaughter *et al.* at col. 23, lines 25-55).

Dependent claim 12 recites ***a unilateral contract for describing one or more behaviors of the keyboard service.*** Applicant's representative respectfully submits that, contrary to assertions made in the Office Action, the cited section of Slaughter *et al.* does not teach or suggest ***a unilateral contract for describing one or more behaviors of the keyboard service.*** Instead, Slaughter *et al.* discloses an XML schema can be viewed as defining a contract with a service. (See Slaughter *et al.* at col. 23, lines 25-55).

Dependent claim 14 recites ***a unilateral contract for describing one or more behaviors of the mouse service.*** Applicant's representative respectfully submits that, contrary to assertions made in the Office Action, the cited section of Slaughter *et al.* does not teach or suggest ***a unilateral contract for describing one or more behaviors of the mouse service.*** Instead,

Slaughter *et al.* discloses an XML schema can be viewed as defining a contract with a service. (See Slaughter *et al.* at col. 23, lines 25-55).

Moreover, Hutsch *et al.* does not make up for the aforementioned deficiencies of Slaughter *et al.* and Morciniec *et al.* with respect to independent claims 6, 16, and 21. Claims 7-15 properly depend from claim 6, and are patentable over the cited art for at least the same reasons as is claim 6. Claims 17-20 properly depend from claim 16, and are patentable over the cited art for at least the same reasons as is claim 16. Claims 22-25 properly depend from claim 21, and are patentable over the cited art for at least the same reasons as is claim 21. Accordingly, withdrawal of this rejection is respectfully requested.

CONCLUSION

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [MSFTP2299US].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicant's undersigned representative at the telephone number below.

Respectfully submitted,
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